

Claims

Sub 51 1 A method of receiving and formatting incoming messages from one or more data feed lines, comprising:

5 receiving a plurality of incoming messages having market event data from a data feed line;

translating a portion of the received messages into market event messages having a common format, the market event messages including market activity data and time data; and

10 publishing at least one of the translated messages on a network having a plurality of devices capable of processing the published message.

15 2. The method of claim 1, wherein the incoming messages have a plurality of formats.

20 3. The method of claim 1, further comprising:
receiving a second plurality of incoming messages having data on one or more market events from a second data feed line;
translating a portion of the received second plurality of incoming messages into a second plurality of market event messages having the common format; and

25 publishing at least one of the translated messages on the network.

Sub 30 4. The method of claim 1, wherein the incoming messages comprise trading quotations, indices, volumes, exchange halts, and/or trading parties.

30 5. The method of claim 1, wherein at least a portion of the incoming messages are NQDS messages.

35 6. The method of claim 1, wherein the incoming messages include market source and newswire messages.

7. The method of claim 1, wherein publishing comprises:
transmitting one of the translated messages to a plurality
of the devices via the network.

5 / 8. The method of claim 7, wherein publishing includes
transmitting an associated sequence number with each market
event message, the sequence numbers temporally ordering the
incoming messages.

10 9. The method of claim 1, wherein translating comprises:
attaching time data to one of the incoming messages; and
converting a plurality of data fields of the one of the
incoming messages to a common format.

15 10. The method of claim 9, wherein the time data includes a
receipt time of the one of the incoming messages and an event
time attached to the one of the incoming messages prior to
receipt from the feed line.

20 11. The method of claim 1, further comprising:
serially determining whether the translated messages are
valid based on associated sequence numbers, the sequence numbers
temporally ordering the incoming messages from each feed line;
and

25 wherein one of the translated messages is published in
response to being determined to be valid.

30 12. The method of claim 11, wherein the one of the
translated messages is valid if the associated sequence number is
one of higher than sequence numbers of the previously published
messages and located in a gap between sequence numbers of the
previously published messages.

13. The method of claim 11, wherein determining whether the translated messages are valid includes updating a list of gaps between sequence numbers of previously published messages.

5 *Sub B2* 14. The method of claim 1, further comprising:
monitoring a plurality of feed lines for the incoming
messages.

See D1
10 15. The method of claim 1, further comprising:
creating a list for sequence numbers of the incoming
messages received from the feed line; and
writing a sequence number to the list for each translated
incoming message, the sequence numbers forming a temporal
ordering of the incoming messages.

Sub B3
15 16. A computer program product for receiving and formatting
data incoming messages from one or more data feed lines, the
program residing on a computer readable medium and comprising
instructions to cause a computer to:

20 receive from one or more feed lines a plurality of incoming
messages having data on market events;

translate the received messages into market event messages
having a common format, the market event messages including
market activity data and time data; and

25 publish at least one of the translated messages on a network
having a plurality of devices capable of processing the published
message.

30 17. The computer program product of claim 16, wherein the
received incoming messages have a plurality of formats.

18. The product of claim 16, further comprising
instructions to cause a computer to:

35 receive a second plurality of incoming messages having data
on one or more market events from a second data feed line;

translate the received second plurality of incoming messages into a second plurality of market event messages having the common format; and

publish at least one of the translated second plurality of messages on the network.

19. The product of claim 16, wherein the incoming messages comprise trading quotations, indices, volumes, exchange halts, and/or trading parties.

20. The product of claim 16, wherein at least a portion of the incoming messages are NQDS messages.

21. The product of claim 16, wherein the incoming messages include market source and newswire messages.

22. The product of claim 16, wherein the instructions to publish cause the computer to:

transmit one of the translated messages to a plurality of parallel processing devices via the network.

23. The product of claim 16, wherein the instructions to translate cause the computer to:

attach time data to the incoming messages, the time data including a stamp for a receipt time of the associated incoming message and an event time for the prior to the receipt of the associated incoming message from the feed line; and

convert a plurality of data fields of the incoming message to a common format.

24. The product of claim 16, the program further comprising instructions to cause the computer to:

serially determine whether the translated messages are valid based on associated sequence numbers, the sequence numbers temporally ordering the incoming messages from the feed line; and

wherein one of the translated messages is published in response to being determined to be valid.

25. The product of claim 24, wherein the one of the translated messages is valid if the associated sequence number is one of higher than sequence numbers of the previously published messages and located in a gap between sequence numbers of the previously published messages.

26. The product of claim 24, wherein the instructions to determine whether the translated messages are valid cause the computer to:

update a list of gaps between sequence numbers of previously published messages.

27. The product of claim 16, the program further comprising instructions to cause the computer to:

create a list for sequence numbers of the incoming messages received from the feed line; and

write a sequence number to the list for each translated received incoming message, the sequence numbers forming a temporal ordering of the incoming messages.

28. A system to receive and format incoming messages received from a plurality of data feed lines, comprising:

a network; and

a plurality of line handlers having a server coupled to both a data feed line and to the network, the servers being configured to:

receive a plurality of incoming messages for market events from the data feed lines coupled thereto;

translate the received incoming messages into market event messages having a common format; and

publish a portion of the translated messages on the network;

and

Sub 24
wherein the market event messages from each server have the same format.

See D1
5 29. The system of claim 28, wherein the incoming messages have a plurality of formats.

Sub 25
30. The system of claim 28, wherein the incoming messages comprise trading quotations, indices, volumes, exchange halts, and/or trading parties.

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31. The system of claim 28, wherein at least a portion of the incoming messages are NQDS messages.

See D1
15 32. The system of claim 28, wherein each line handler is configured to send each market event message to a plurality of available processors via the network.

Sub 26
20 33. The system of claim 28, wherein each computer is configured with a software program to cause the computer to: receive the incoming messages; translate the received incoming messages; and publish a portion of the translated messages on the network.

25 Sub 25
34. The system of claim 33, wherein the program includes an receiver object to receive incoming messages, a translating object to translate the incoming messages, and a publishing object to publishes translated messages.

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35. The system of claim 33, wherein the program further includes a sequence number object to serially determine whether the translated messages are valid based on associated sequence numbers, the sequence numbers temporally ordering the incoming messages from each feed line; and

